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# THE ROLE OF WOMEN IN THE SOLUTION OF THE FOOD CRISIS IN AFRICA

## (IMPLEMENTATION OF THE LAGOS PLAN OF ACTION)

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# INTRODUCTION

1. Like other continents at some time in their past, Africa has had its share of widespread and localised famine. And yet, taken as a whole, the continent has been food self-sufficient. From 1962 to 1964, the food self-sufficiency rate or share of food needs met by domestic production was estimated at 90 per cent. In order to achieve substantial and speedy economic growth therefore, Africa opted in the 1960s for industrialization, gambling on the industrial sector to achieve the productivity and value added that would secure a better life for its people.

2. The 1970s and 1980s, however, brought home the fact that the result of Africa's industrialization drive had been but middling. The cost of transferring technology and expertise from the industrialized countries combined with the world economic recession and the protectionist measures it brought against products from developing countries, to make the option more expensive than had been envisaged. To make matters worse, the expected jobs failed to materialize. Unemployment and rapid urbanization are creating new social problems and making unprecedented demands on the food and agriculture sector. Africa was only 90 per cent food self-sufficient in 1972-1974 and 86 per cent so in 1980. The years of drought that have plagued several African countries recently have demonstrated how fragile their economies are and how vitally important it was to develop the agricultural and food sector.

3. The food sector is also the area where the crisis is felt the most: food production in the entire region increased by only 1.3 per cent per year during the 1970s. Grain production during the same period increased by 1.2 per cent to a total of 58.4 million tons in 1980 while demand was 72 million tons. The growth of animal production was more substantial in the 1960s but has since been jeopardized by the severe drought that has recently hit the Sahel and still persists in other parts of the continent.

4. The gap between such slow growth of agricultural production and fast population growth has meant a significant decline in the ability of domestic production to match needs. From 1970 to 1980, total food imports increased by 8.4 per cent per year. Grain imports for human consumption stood in 1980 at 20.4 million tons or $5 billion. At the same time, food aid accounted for as many as 1.5 million tons. The calory ration for 20 per cent of the population is below the critical level and increased very slowly from 2,115 calories in 1960 to a mere 2,197 calories in 1970.

5. Low productivity is the cause of this very poor performance in agriculture. Average yields of cereal crops are of the order of 1,090 kg./ha. - lower than the world average of 2 000 kg./ha. For roots and tubers, average yields are 7 tons/ha. while the world average stands at 11 tons/ha.

6. Well aware of the alarming state of Africa's economy and of the need for a comprehensive and co-ordinated development strategy, the African Heads of State and Government meeting in Lagos on 28 and 29 April 1980 adopted the Lagos Plan of

Action for the implementation of the Monrovia Strategy that had been adopted one year earlier. Starting from an objective and unflattering appraisal of Africa's economic situation, the Lagos Plan of Action defines the priority sectors of the economy and outlines objectives to be attained for notable and immediate improvement. Such a comprehensive and self-reliant approach to economic development made it clear that as a matter of priority, Africa had to solve the food problem in order to meet the basic needs of its people and to reduce, if not stop, its currently massive imports of food products and its dependence on the outside world. Food self-sufficiency at the national and regional levels have thus become one of the priority objectives that Africa has set itself.

7. The primary role that African women play in food production must be recognized by one and all. African women provide more than half the labour used in agricultural production. They are mostly responsible for storing and transporting agricultural products, processing foodstuffs and, to a large extent, marketing food and agricultural products. The Lagos Plan of Action rightly stresses the fact that account should be taken of the vital role that women could play in seeking solutions to the food crisis that Africa is experiencing and the need for a continual effort to promote an awareness of their contribution to agriculture and the food sector.

8. As the United Nations Decade for Women draws to a close, an objective look should be taken at the situation of women in the economic and social system in particular, at an area as fundamental as food production and a proper appraisal conducted of their contribution to the struggle to solve the food crisis in Africa.

## I. THE CURRENT SITUATION

### A. Characteristics of the agricultural sector in Africa

9. The greater part of production goes into meeting immediate needs such as food. Of the total cultivated area, more than half is devoted to subsistence crops. A good part of such produce is consumed directly on the farm and its volume is therefore difficult to assess.

10. Agricultural production increases slowly. According to FAO, the growth rate for the period 1970-1980 averaged 1.3 per cent per year while per capita food production decreased by nearly 1 per cent per year on average. Such is the quality of statistical data in Africa that these figures must be interpreted with caution. However, even without such unusual occurrences as the drought which hit the Sahel from 1968 to 1973, there can be no doubt that a problem exists. This is borne out by the rapid growth of food imports. Furthermore, 26 out of the 43 countries on the World Food Programme's priority list for the allocation of food aid are found in Africa.

11. The poor performance of African agriculture results from a combination of factors that must be analysed. Worth considering is the impact of the rural - urban drift which has changed the structure of the rural population, particularly

because of the unprecedented number of young people and men moving into the towns where living conditions are relatively less difficult than in the countryside and where the lure of salaried employment becomes a powerful attraction. Worth considering also is the low level of production technology. In most African countries draught animals are not used for farming and even manure is not in general use. Farming implements are still limited to the hoe in many countries and modern factors of production either make but slow progress or are used only to a limited extent mainly on the large commercial farms.

12. The supply of modern inputs, where available, is irregular or inadequate. Agencies responsible for buying and distributing inputs (in more than 60 per cent of the African countries such agencies are controlled by the State) suffer from structural problems and are often unable to deliver such inputs at the proper time, place and in sufficient quantities. Pricing policies influence agricultural production. Despite the subsidization of farming inputs, the real income of producers has diminished in many countries. The official prices of food products are generally low (particularly due to pressure from urban consumers) and unencouraging to farmers. Marketing circuits, of food produce in particular, are also to blame. Generally, official marketing agencies are inefficient, uncompetitive and highly expensive to run.

13. Import policy also greatly influences the production of foodstuffs. Massive imports of wheat and rice, mainly to satisfy the taste of urban consumers, brings down the price of local food staples particularly because a great number of African currencies are overvalued.

14. Generally again, agricultural policies are formulated in the capital and producers - let alone women producers - have not enough say in the matter.

B. The role of women in agriculture

15. Agriculture is the livelihood of most African people and accounts for nearly one fifth of total production. The contribution of women to the economy is tremendous and unequalled on any other continent. Whichever country is considered, agriculture and its allied activities are the areas where that contribution is greatest and most consistent. And yet this contribution is hard to quantify because African countries generally do not have very accurate agricultural statistics and when they do, data concerning women are not always singled out.

16. However, statistical information continues to be improved and the various United Nations agencies have greatly helped to encourage and develop more accurate methods of data collection and processing. Studies are also under way to identify without regard to their degree of reliability, the data currently available in the countries and to obtain a clearer picture of the social and economic importance of women in society, with particular reference to the agricultural sector.

17. In identifying those priority sectors where investment might in the short-term have a favourable and tangible impact on the economy of the region, the Lagos Plan of

Action reaffirmed the vital importance of agriculture and called for efforts to allocate the necessary resources to that sector. It recognized the importance of food produce and maintained food self-sufficiency as a priority short-term objective.

18. The studies being conducted to pinpoint the role of women in socio-economic activity find their proper place and fresh justification in this context because they bring the actual conditions for development, of the agricultural sector in particular, to light. It is a matter of record that while African women provide more than half the labour used in farming, they have to date been ignored in development programmes and marginalized, if not further burdened with work, by more than one agricultural development project. In paragraphs 316 and 323, the Plan makes an explicit call for constant research into ways of promoting "the recognition and documentation of women's contribution to agriculture as a productive activity contributing to the gross national product, especially in terms of food supply". This study is intended to provide an overview of the contribution of African women to the development of the agricultural sector, and to bring to the fore the main aspects of that contribution and the major problems encountered. The objectives and prospects are those defined in the Lagos Plan of Action. The recommendations for improved efficiency in farming and for self-sufficiency in food are inspired in particular by the spirit of the Lagos Plan of Action and the World Conference on Agrarian Reform and Rural Development.

## 1. Women in the rural active population in Africa

19. In 1982, the population of Africa was estimated at 466 million. It is a young and fast-growing population. Young people under 16 years of age account for 44 per cent of that population while people over 65 years of age account for as low as 3.4 per cent. The average annual population growth rate of 2.8 per cent is one of the highest. The female population is slightly larger (0.49 per cent) than the male population with a few variations when the five subregions are considered separately as in Table 1.

20. Generally, there is no direct relationship between the sex ratio to the total population and the sex ratio to the active population. Traditionally, in most societies except for household chores, women have little economic activity and in the industrialized societies, only recently has the activity of working women begun to equal that of men. In Africa however, the situation is different as was mentioned earlier in the introduction. Taking the overall working rate estimate of ILO as an example, two types of situation emerge. On the one hand, the North African countries, and those others of similar cultural traditions, together with the Seychelles and Mauritius show a very low working rate for women below 10 per cent. On the other hand, the sub-Saharan countries show a much higher working rate, the median being 34 per cent. These figures are high and even higher than those observed in other developing countries. However, they seem to be underrated even for North Africa. In an article entitled "Women in Agriculture" 1/ R. Dixon points out this underrating of activity over the last 15 years. It would seem that sub-Saharan African women contribute well above 50 per cent of the agricultural effort, attaining even more than 60 per cent in some cases. This is clear from Tables 2 and 3 which give the distribution of the active farming population in 15 African countries for which data were collected.

21. The proportion of women in the active farming population varies substantially, from country to country in accordance with census criteria. It also varies in many cases from one year to another within the same country.

22. The actual share of women's contribution is in fact not correctly measured by working rate because such statistics fail to measure total actual work. Furthermore, account should be taken of the age at which working life begins or effectively ends. In 1975, according to ILO, 3.6 million young girls aged 10 to 14 years were working in Africa. They accounted for 16 per cent of the world's active population in their age group at a time when the population of Africa was only 10 per cent of the world population. Those young girls worked mainly as house help for farmers. In addition to that, ILO estimated that 1.3 million African women aged more than 65 years were still working, accounting for 2.6 per cent of the total active female population and having a working rate of 19.8 per cent which was the highest in the world.

23. The share of women in agricultural work is further increased by the rural-urban drift which involves more men than women. Many women find themselves in fact, if not in law, heads of families in the countryside or heads of family enterprises. Households run solely by women in this way may be as many as one quarter of the number of households in countries such as Kenya. In those countries neighbouring the major mining areas of Zimbabwe and South Africa which draw away the bulk of the male population for long periods, such households account for more than 30 per cent of the total number of households.

Table 1: Estimates of the African population by age and by sex in 1975
(figures in millions)

| Region | Sex | Ages 0-15 yrs | 15-64 yrs | 65 & Over | Total |
|---|---|---|---|---|---|
| Africa | F plus M | 181 | 212 | 13 | 406 |
| | Male (M) | 91 | 105 | 6 | 201 |
| | Female (F) | 90 | 108 | 7 | 205 |
| Western Africa | F plus M | 56 | 62 | 3 | 121 |
| | Male | 28 | 31 | 1 | 60 |
| | Female | 28 | 31 | 2 | 61 |
| Eastern Africa | F plus M | 52 | 60 | 3 | 115 |
| | Male | 26 | 29 | 2 | 57 |
| | Female | 26 | 31 | 1 | 58 |
| Northern Africa | F plus M | 41 | 50 | 3 | 94 |
| | Male | 21 | 25 | 1 | 47 |
| | Female | 20 | 25 | 2 | 47 |
| Central Africa | F plus M | 20 | 25 | 2 | 47 |
| | Male | 10 | 12 | 1 | 23 |
| | Female | 10 | 13 | 1 | 24 |
| Southern Africa | F plus M | 12 | 16 | 1 | 29 |
| | Female | 6 | 8 | 1 | 15 |
| | Male | 6 | 8 | .. | 14 |

Source: Demographic Yearbook 1979.

Table 2: Active rural population by sex (in percentage)

| | Period | Male | Female |
|---|---|---|---|
| Ivory Coast | 1973/74 | 47.3 | 52.7 |
| Mali | 1977/78 | 49.3 | 50.3 |
| Togo | 1970 | 42.3 | 57.7 |
| Central African Republic | 1973/74 | 42.7 | 57.3 |
| Chad (Satigui-Deressa) | 1970/71 | 49.3 | 50.7 |
| Congo | 1972/73 | 38.6 | 61.4 |
| Cameroon | 1972/73 | 43.1 | 56.9 |
| Zaire | 1970 | 46.5 | 53.5 |
| Ethiopia | 1974/75 | 66.6 | 33.4 |
| Lesotho | 1969/70 | 49.3 | 50.7 |
| Malawi | 1968/69 | 48.3 | 51.7 |
| Seychelles | 1960 | 63.2 | 36.8 |
| Swaziland | 1971 | 45.5 | 54.5 |
| United Republic of Tanzania | 1971/72 | 46.4 | 53.6 |
| Zambia | 1970/71 | 52.1 | 47.9 |

Source: Agricultural census and surveys and 1970 World census of Agriculture, FAO, Rome, 1981.

24. The figures are different from those given in other studies concerning the active female farming population and the following estimates show an even higher rate of participation with few exceptions to the rule.

Table:3: Percentage of active women in the total farming population

| Country | Year | Percentage of women in agriculture forestry, hunting and fishing |
|---|---|---|
| Algeria | 1973 | 12 |
| Botswana | 1965 | 52 |
| Congo | 1972/73 | 64 |
| Gabon | 1963 | 51 |
| Ghana | 1970 | 43 |
| Liberia | 1962 | 43 |
| Malawi | 1977 | 52 |
| Uganda | 1963/64 | 50 |
| Sudan | 1956 | 27 |
| Morocco | | |
| United Republic of Tanzania | 1971/72 | 52 |
| Tunisia | 1975 | 13 |
| Cameroon | 1972/73 | 57 |
| Zaire | 1960 | 60 |
| Egypt | 1960/61 | 20 |
| Togo | 1970 | 36-48* |
| Gambia | 1970 | 48-54* |
| Rwanda | 1970 | 50-54* |
| Burundi | 1970 | 48-53* |
| Sierra Leone | 1963 | 42 |
| Zambia | 1969 | 12 |

Source: National censuses - Women in agriculture: counting the labour force in developing countries, Ruth B. Dixon - ECA 1974.

2. The work done by women in agricultural production and animal husbandry

25. Women work at all levels of agricultural production. Their work is very substantial and even more difficult to quantify in animal husbandry. Fishing and hunting are the only activities in which they are not regularly represented in all countries. To a large extent, they are responsible for the storage and preservation of foodstuffs and almost entirely responsible for their processing.

26. Although in agricultural production women work in all areas (cash crop and food crop farming) it is in food crop farming that they most distinguish themselves. Women carry out widely varying chores that are more or less unrelated and often go unpaid. Their contribution to agriculture is increasingly being recognised particularly in food production and their work is no longer considered as merely giving a helping hand to their men. In any case, it is difficult to precisely evaluate their contribution because that contribution is usually rated too low in labour statistics and national accounts.

27. One ECA study estimated women's contribution at approximately 60 to 80 per cent of all labour required for farming. Even though significant differences can be found from one country to the other or from one tribe to the other, women in Africa south of the Sahara play an important role in agricultural activities as was mentioned earlier. It is more difficult to evaluate the work of women in the countries of North Africa because the labour statistics often ignore the seasonal contribution that women make at land clearing and harvest time.

28. In the areas of West Africa that have no mineral resources, the cononial powers introduced extensive farming of tropical products for export and in the mining areas of southern Africa the exploitation both of mineral and agricultural resources required substantial labour and the men became seasonal or perennial migrants leaving their women to take care of the farming.

29. The products that depend mainly on the work of women are those consumed by family households. Cereals, tubers, beans and other pulses as well as vegetables are the crops which depend largely on the productive labour of women.

30. It is normal when talking about such vital labour to seek out the extent to which women are involved in deciding what crops to grow, how work should be scheduled within the limits set by nature and how crop harvests should be distributed.

31. In plantation areas, the sexual division of labour is more marked. Men grow such cash crops as cocoa, coffee, cola nuts and oil palm and women grow such subsistence crops as bananas, plantain, rice, cassava, maize, vegetables and tubers. Every year, the man divides his land among his several wives who farm it with the help of their children. The men cut the trees and burn the grass to clear the land for farming. The women do all the work of tilling the land. The main plots of land are used to grow food for the family. The women sometimes have additional lots of land on which they grow tubers and vegetables. The women therefore produce all the food for the family and in addition participate actively in the plantation work. For example, they pick the coffee and carry it to the village. The introduction of cash crops has therefore added new obligations to the traditional tasks of women.3/

32. According to certain estimates, rural women work from 15 to 16 hours per day during part of the year (particularly at harvest time when they spend long hours in the farm). Table 4 indicates the division of labour between men and women in the rural areas of Africa.

Table 4: Division of labour by sex in Africa (in percentage)

| Type of work | Men | Women |
|---|---|---|
| Felling trees in the forest and clearing land | 95 | 5 |
| Ploughing | 70 | 30 |
| Sowing and planting | 50 | 50 |
| Hoeing and weeding | 30 | 70 |
| Harvesting | 40 | 60 |
| Gathering in the harvest | 20 | 80 |
| Storing the harvest | 20 | 80 |
| Food processing | 10 | 90 |
| Selling of surplus food products on the market | 40 | 60 |
| Fetching water and fuelwood | 10 | 90 |

33. The table below gives a more accurate picture of the number of hours spent by rural women in Zaire doing various domestic chores and working on their farms.

Table 5: Daily schedule of rural women in Zaire

| Type of work | Time spent |
|---|---|
| Farm work | 7-8 hours |
| Fetching water | 45 minutes |
| Preparing cassava meal | 4-5 hours |
| Preparing the day's meal | 1 hour 30 minutes |
| TOTAL | 13 to 15 hours per day |

Source: Mitchnik D.A., The role of women in development in Zaire, OXFAM 1973.

34. In almost all agricultural systems women also raise some livestock. They feed the cattle, milk them, process the milk into cheese or into curdled milk then sell the products in the market or barter them for other foodstuffs needed in the home. All the farm work done by women is carried out under particularly difficult conditions. Almost everything is done by hand or with primitive implements. Furthermore, the farms allocated to women are often scattered and far from the village. This makes them walk long distances carrying heavy loads at harvest time. Almost invariably, they are given no technical training or credit facilities and are generally unable to acquire sufficient inputs.

35. It is very important to note that the Lagos Plan of Action stresses the development of the agricultural sector with a view to increasing the degree of food self-sufficiency and promoting the development of the economy as a whole. The predominant role of women in the food sector has been rightly acknowledged but that acknowledgment has yet to be translated into development programmes.

## C. Processing and marketing

36. The economic role of women does not stop at agricultural production. After the harvest, women process, store and market the produce. Cereals for example, require long hours of decortication and pounding.

### 1. Processing

37. Grain mills are becoming more widespread in the towns and major townships but their introduction to the countryside is a slower process. Women in Zaire for example spend four to five hours preparing cassava which the family will consume in two days. Certain fruits, vegetables, fish and meat have to be preserved by drying. Women also make such products and utensils as soap, pottery and basketwork needed by the household or meant to fetch additional income. They make beer from millet or maize. It should be noted that these cottage industries that women run face aggressive competition from the processing industries. The question of industrial choice arises here. If small industries and appropriate technologies are developed they would serve as a launching pad for the development of local handicraft and small-scale industries which will spread whereas if heavy food processing industries were brought in, the effect would be to increase dependence on the outside world. Heavy capital investment would also be required and there would be the risk of changing the taste of people in favour of imported products.

38. Most African villagers do not have water near their dwellings. Streams and wells are often a considerable distance away. Each trip, women fetch about 20 litres of water for preparing meals, doing the laundry and for the family to wash with. Several trips are necessary each day.

39. Firewood collection sometimes raises severe problems. In Zambia, women spend on average one hour each day collecting the firewood needed to cook the family meals. In certain countries, they spend even more time. Because the forests are receding as a result of lumbering and bush fires, rural women are compelled to walk long distances in order to collect wood for making fire.

2. Marketing

40. Produce marketing is carried out by women and men. However, significant variations can be found from one subregion to another. In West Africa, produce is sold in the markets by women. Almost all the women are to varying degrees involved in produce marketing. Women who get to sell produce in the market often have to cover considerable distances carrying their produce on their heads. All these add to the many domestic chores that women have to do at home including housekeeping, caring for children and elderly people, sewing clothes, preparing meals for the whole family as well as fetching water and firewood.

41. Even though political leaders are becoming more aware of the need to integrate women in development, that awareness is not tangibly reflected in the policies actually being pursued. In fact, many officials are not aware of the role played by women in agriculture and those who are, do not think it necessary to take into account the particular needs and interests of rural women.

D. Access to factors of production

1. Land

42. Of all the factors necessary for agricultural production, land comes first as the factor which confirms the right of the producer to belong to the rural community. The social and security values that the right to land confers make for social stability and economic progress.

43. Historically, farmland has been communal property until recently. In many cases, it still is. Land is distributed in accordance with the size of family groups within the same clan. Land belonging to the clan is inalienable and is administered by the head of the clan or (in Sahelian countries) the land chief. In allocating land, account is taken of the numerical strength of the family, its social standing and its main activities. In such cases of collective land ownership, the head of each family is expected to set aside some land which the women can farm collectively or individually. It is to be noted that the plots of land reserved for the women are on average smaller than those for men. Furthermore, women have always been able to use such marginal land as the more or less hydromorphic marshlands for market gardening.

44. And yet in most of Africa, there has been a very clear shift to individual ownership of land. Land survey departments have come into the picture and the registration of land on an individual basis is spreading. With this new trend, it has become clear that some part of society is being limited in its access to or ownership of land.

45. And there again, as generally happens, it is women who are deprived of the right to own land and for that reason, of the most important factor of production while they continue to do the farm work. This is how their contribution to the national effort goes unnoticed.

2. Agricultural technology

46. Without going so far as to assert that in Africa, discrimination is practised in the type of farming technologies employed by women and men, there is one fact that stands out. In the work that women do in farming, the dominant implement is the hoe or the planting stick. Where draught animals have been successfully introduced into farming, it is the men who drive them. There has been little mechanization of the farm work done by women. One study conducted in Botswana where draught animals are quite generally used and where women are traditionally the major producers of foodstuffs has shown that 59 per cent of the households headed by women had no access to draught animals while only 28 per cent of the families headed by men were in the same situation.9/

47. The situation described above can be found in other countries where draught animals are in general use and are mostly owned by men who may, in certain cases, hire them out to women at ploughing time. But then, the first loss in income that women experience in farming arises from not being able to decide on the most appropriate time to plough their farms. The second loss in income arises from the ploughing fees which reduce the income that the women would have earned from their farming.

48. In the African countries that have had significant experience in mechanized farming, the farming operations that were first to be mechanized were those which, in the great majority of cases involving the division of farm labour, fell to men. Mechanization was mainly confined to land clearing and ploughing. Removing the bottlenecks of farming technology would require action at three levels:

(a) Choosing the operations to be mechanized;

(b) Adapting such technology to the physical characteristics and dimensions of peasant farming;

(c) Instituting incentives in the form of credit especially for acquiring new technology.

49. Agricultural extension programmes generally are inherently male-oriented because men are supposed not only to be the heads of family but also the major producers in rural areas. The same applies to home economics programmes which, for all their usefulness, ignore the role of women in agricultural production.

50. One other aspect of the male orientation in agricultural policies has to do with the choice of technology. Technological advancement usually occurs in what are termed "heavy" technologies. Labour-saving improvements and better land clearing techniques, for example, are neglected. Often the workload of women is greatly increased because mechanized ploughing increases the cultivated area whereas the work of hoeing, collection and harvesting are not mechanized.

51. Governments have carried out land reforms with the avowed intention of promoting development. Too often, such reforms have deprived women of their traditional rights to the land without reducing the inordinate amount of work they do. In certain cases,

governments have initiated programmes termed 'villagisation' as a way of concentrating in specific places the traditionally scattered farming populations so that it might be easier to provide them with social services and to link them up communications-wise with the major industrial and urban centres. Moreover, as René Dumont 4/ puts it, there is a tendency to make women responsible for work on collective farms in place of men or to make them work more frequently than men. This is a departure from the original purpose of the villagisation movement.

52. Co-operative movements are substantially supported by Governments and are no doubt an effective tool for agricultural development. And yet, despite the major role they play in farming, women are generally not represented and do not participate in any co-operative activities where men are important as heads of family. In some countries, consumer co-operatives have been set up with women only participating. Those experiments have often failed because the women are not interested and lack the proper training. Also, the co-operatives do not have sufficient funds. Such was the case for example in the Sudan.5/

### 3. Credit

53. African commercial banks allocate only five per cent of their loans to the agricultural sector. These loans mainly go to men who have land collateral. National development banks that have been set up to promote development (of agriculture in particular) in their countries grant loans to heads of families, which once again means to men. Some original forms of credit facility have been set up in some countries to grant loans both to women and men but the loans they grant often carry a high interest rate.

54. Government policies for the modernization of distribution channels and the integration of small farms in larger commercial circuits both national and international can also be a nuisance to women. This seems to have been the case in two regions of Morocco: El Gharb and El Jadida where several agricultural co-operatives were set up to produce for foreign markets. The farm work depends on the labour of women who now have an even more crushing load of work at peak seasons. And yet it is the head of family who receives a lump sum for all the work done.6/

55. In conclusion, development policies generally do not consider the actual distribution of labour in the countryside and exclude the needs and interest of women who account for the lion's share of agricultural production.

## E. Activities of the African Training and Research Centre for Women in the food and agricultural sector

56. If the primary role that women play in farming and food production has finally been acknowledged internationally and even nationally, ATRCW has been largely responsible. The Centre has basically carried out three activities:

(a) Sensitizing development officials and women's representatives;

57. This was done in the course of various missions to member countries through various training and information seminars.

(i) Missions to countries

58. International meetings provided the opportunity for discussion with national officials and women's representatives. Missions were organized with the purpose of promoting national agricultural development programmes which took into account the contribution of the broad masses of rural women in producing more food. The missions were organized to the Gambia, the Upper Volta and to the Central African Republic among others.

(ii) Training and information seminars

59. The first such seminar organized in 1975 by the ECA Women's Programme was held in Kibaha, United Republic of Tanzania. It brought together women's representatives and extension officers to consider methods of food preservation and the improvements that needed to be made in those methods. The seminar produced an important publication entitled "Workshop on food preservation and storage".

60. Other seminars followed. Worth mentioning are the annual three-month courses on nutrition for rural trainers organized at the Pan-African Development Institute in Douala with the co-operation of FAO and UNICEF.

61. Seminars were held on small-scale food processing industries, improvement of food preservation and storage technologies and on the no less current problem of firewood which is the source of energy for the rural masses.

(b) Studies on the role and status of women in agriculture and food production

62. In order to take a closer look at the situation and specific needs of women in agricultural production, studies have been conducted into women's participation in agriculture in Nigeria, the Upper Volta and in the Central African subregion.

63. The series of co-ordinated studies is continuing and will soon cover other countries of West Africa such as Mali and the Ivory Coast and Eastern and Southern Africa. The studies will provide interested governments and national machineries for the integration of women in development with information on the pressing problems of rural women and the possible solutions to them.

64. The agricultural situation is obviously critical in most African countries but the problems are not the same and national strategies differ from country to country. Before any effective action or programme can be pursued in the short and long terms the real needs of rural folk will have to be assessed.

65. Another set of studies focused on the technologies used by women in preserving and processing food. These were fish preservation technologies as used in Ghana, the Ivory Coast and Senegal; maize preservation methods as used in six Eastern African countries and palm oil preparation techniques being used in Sierra Leone, the Ivory Coast and Cameroon.

66. As a supplement to the series, comprehensive studies have been published on the role of women in agriculture and allied sectors in Africa (see ECA Survey of Economic and Social Conditions in Africa, 1982-1983) and the role of women in solving the food crisis in Africa.

## II. PROSPECTS AND FUTURE OF WOMEN IN THE FOOD AND AGRICULTURE SECTOR

67. International organizations have all stressed, from the beginning of the United Nations Decade for Women, the vital role that rural women play in development and made recommendations asking governments to recognize the contribution of women and to take due account of it in national statistics and development plans and to speed up their efforts to integrate women in development.

68. The Lagos Plan of Action emphasizes the vital role that women can play in solving the food crisis in Africa which is one of the express priorities of the Plan and recommends that governments should take the necessary steps to harness the skills of women and to reduce their work in order to make it more productive and accord priority attention to their training and employment in the rural areas. The World Conference on Agrarian Reform and Rural Development also stressed the fact that recognition of the vital role of women is a prerequisite to the success of rural development planning and programme implementation.7/

69. Rural women have a place so important in agricultural (particularly food) production that any effort or programme aimed at increasing such production and improving the productivity of women would automatically contribute greatly to rural development and the solution of the food crisis. Conversely, any development plan or strategy which neglects to consider the contribution of women would run the risk not only of marginalizing women and even worsening their situation but would also in fact be doomed to failure. Also, to the extent that the production of women is based on non-industrial crops and to the extent that such production largely escapes the fluctuations of prices on the world market and external influences, it would be clearly a positive undertaking to develop such production by increasing consumption, reducing dependence on the outside world, improving nutrition and the quality of life and increasing the productive forces.8/

70. In order to be able to increase the production of women and at the same time to reduce their burden of work and improve their living conditions (which would contribute to general development and result in the improvement of living conditions for men and children) it is indispensable for the policies of African Governments to take into account at all levels (national and local) and in all areas of economic and social life, the role, status, living conditions, needs and problems of women, particularly of rural women who happen to be the great majority.

71. The agricultural production of African women is currently limited to the satisfaction of immediate needs. Their productivity is very low for all the reasons

described earlier: uncertain access to land, outdated farming methods, primitive tools, lack of access to inputs and credits and also the fact that in addition to farming, women undergo frequent and closely-spaced pregnancies at the same time as they perform numerous domestic chores. In order for agricultural (particularly food) production to increase, a whole range of measures should be taken, on the one hand to improve the productivity of women and on the other hand, to ensure a more equitable division of labour within the labour force.

## A. Strategies for greater and rational participation of women

### 1. Global strategies

72. Such measures include technological improvements such as:

(a) Seeking out and disseminating new farming techniques based partly on traditional methods that have proven their effectiveness and taken into account developments and experiments in other countries and regions of the world;

(b) Developing improved implements for small-scale and medium-scale farming and making them available on a co-operative basis;

(c) Providing women farmers on a co-operative basis and on credit with high-yield seeds, chemical and organic fertilizers such as compost and manure which can largely be produced in the villages, pesticides and other plant disease control drugs certain kinds of which can also be produced in the villages;

(d) Developing appropriate farming, processing and preservation techniques as well as labour-saving devices;

(e) Promoting the development of intensive agricultural, forestry and animal husbandry practices which imply:

(f) Giving women and poor peasants direct access to land and other factors of production.

73. For these technological improvements to bear fruit, they should be accompanied by training programmes, a reform of extension services, of co-operative development and agricultural credit for rural women. Educational, literacy and vocational training in agriculture, home economics and co-operative techniques are generally acknwledged by all governments as necessary. However, they often benefit the male population primarily. The female population must have equal access to them and national policies should facilitate the access of women to agricultural schools.

### 2. Activities of the African Training and Research Centre for Women

74. The staff and financial resources of ATRCW should be reinforced in order to enable it to continue its activities in food and agriculture. Those activities will continue in three main areas, namely:

(a) Studies

75. More precise studies will be conducted to support country programmes and to increase national awareness of the participation and needs of women farmers and other social categories working at various stages of food production.

(b) Training

76. Training will continue in the form of seminars and courses in existing development and training institutions. The organization of study tours for women's groups and of agricultural and food fairs should open up wider horizons for rural women and provide a number of answers to their technical problems.

(c) Pilot project

77. From recognizing the important role of women in solving the food crisis to effective integration of rural women in development projects and programmes, a great change will have to be made in the dissemination of technical information and in the distribution of inputs to those who need them the most, namely, poor farmers and women farmers. Such a change could be promoted and speeded up through the systematic replication of pilot projects under national programmes.

78. Agricultural extension and rural development services will have to be reformed to bring them more into line with the needs of women farmers. Such reform calls for a reorganization of the appropriate training services to emphasize the training of female staff and extension officers. Co-operatives for rural women should be established, encouraged and if possible financially assisted by the government, credit agencies, mass organizations and traditional associations such as agricultural, production, marketing, consumer and multipurpose credit co-operatives. Agricultural credit facilities should be developed and made accessible to women through such institutions as people's savings and credit banks. Communal infrastructures will also have to be included. Rural roads will have to be built, drinking water will have to be supplied, health centres and markets will have to be constructed. Legal measures will also have to be taken to improve the social and legal status of women particularly with regard to land access and inheritance, equal opportunity for employment and equal pay. Agricultural producer pricing policies and marketing circuits will have to be reviewed particularly in respect of food products so that men and women farmers can secure a better income and feel encouraged to improve on production.

79. Research, data collection and analysis concerning the contribution of women to the economy in general and to the agricultural sector in particular will have to be developed as should the dissemination of such data. No development programme can make a realistic assessment of such a vital contribution without accurate data. The evaluation of women's projects and programmes should be accorded particular attention and given as wide a circulation as possible.

80. Finally, rural women should participate in decision-making. They should have a say in the division of labour and the distribution of resources, income and

expenditure. In this regard, they should be encouraged to form groups and to participate actively in rural organizations and institutions. National machineries for the integration of women in development (such as ministries, national committees, associations or unions) have a particularly important role to play in training and mobilizing rural women. Rural development and the integration of women in development will remain abstract ideas and fail to be achieved if women remain a passive instrument of development. Accordingly, customs and attitudes will have to change with time. This can gradually be done if the countries have the political will to induce the required changes.

## B. Water Problems

81. The importance of water to human nourishment cannot be over-emphasised. Its vital importance as a factor of production is widely recognized in agriculture and industry. Irrigation as a supplement to rainfall is practised only in limited areas but the practice will have to spread to meet climatic and increased requirements for agricultural, food and non-food products.

### 1. Water for domestic use

82. Such water is of considerable importance because the demand is immediate and urgent and its quality crucial for the good health of people. Fetching water and carrying it home is as hard a task as any in the current state of village technology. This work is done by women. They have to walk several kilometres and carry as many as 20 to 40 litres on every trip.

83. Often, the quality of the water itself is a far cry from any standards of wholesomeness. The water from streams and rivers is not always directly useable and the introduction of simple and efficient filters has been tried in limited areas without much success. The failure of efforts to market water filters in specific localities should be seriously studied because the major users are the first to deplore the poor quality of the stream or pond water that they fetch home. Undoubtedly, there is some psychological factor lacking in the techniques developed and marketed. Also, except in rural communities which have pipe-borne and fountain water (and these are a minority) the quality of the water just as the work involved in making it available (unwholesome as it is) to families, remain very important limiting factors to good nutrition.

84. The fact is that the greater part of the food intake of living organisms is made up of water. The scarcity of water limits the well-being and health of rural people and also limits animal husbandry because to raise 20 chickens requires five litres of water each day. It should be noted that the scarcity of water in rural areas has repercussions not only on rural folk but also on urban people.

85. In addition, the problem is more one of a choice and reorientation of development programmes than a technical or even financial problem. There now exists a technology that is rural and accessible to most communities. Towns already

have complete or incomplete water supply systems. Villages are far from having them. The implications of this one factor are beyond calculation. Whole villages have been known to migrate when the nearby stream or spring dried up. The rural exodus and its attendant impoverishment of the masses can largely be explained by the lack or scarcity of water.

86. The cost of water in national and continent-wide health expenditure will have to be studied before drinking water supply can cease to have a merely social connotation. It is also a major economic problem and bottleneck that will have to be removed even if it does not always seem to be so.

87. Intensive programmes of well drilling have been carried out in the Sahel where the situation was and still continues to be most catastrophic. Other countries like Kenya lay emphasis on the distribution of water to all communities. These various efforts will be considered further on under water supply policies and the achievements of the United Nations Water Decade proclaimed in 1980.

88. In resolution 35/18 of 10 November 1980, the United Nations General Assembly proclaimed the period 1981-1990 the International Drinking Water and Sanitation Decade. During that period, member States were to endeavour to make significant improvements in their water supply services and in sanitation. As the Decade coincides exactly with the Third United Nations Development Decade, the International Development Strategy has as one of its goals and objectives the supply of drinking water and sanitation facilities for all rural and urban areas by the year 1990.

89. When the rate at which water needs are currently being met is considered, this goal is most commendable. Table 6 below describes the extent to which water and sanitation needs are met in developing countries. It can be noted from the table that Africa, Asia and the Pacific states, accounting for 39 per cent of the total population, have the lowest overall rate at which those needs have been met. However, taking rural areas alone, the difficult living conditions of Africa's rural people stand out because only 25 per cent of the rural folk had reasonable access to water in 1980 as compared to 29 per cent for developing countries as a whole.

Table 6: Service coverage for drinking water supply and sanitation in developing countries in 1980. 1/

| Countries & Regions | Population Served (millions) | Population Covered | | | |
|---|---|---|---|---|---|
| | | Water Supply | | Sanitation | |
| | | Millions | % | Millions | % |
| All Developing Countries | | | | | |
| Urban | 801 | 526 | 75 | 366 | 52 |
| Rural | 1,617 | 469 | 29 | 213 | 13 |
| Total | 2,318 | 995 | 43 | 579 | 25 |
| Africa (ECA Members) | | | | | |
| Urban | 105 | 85 | 81 | 59 | 56 |
| Rural | 330 | 83 | 25 | 50 | 15 |
| Total | 435 | 168 | 39 | 109 | 25 |
| Europe (ECE Members) | | | | | |
| Urban | 44 | 38 | 87 | 22 | 50 |
| Rural | 50 | 29 | 58 | 20 | 40 |
| Total | 94 | 67 | 71 | 42 | 45 |
| Latin America (ECLA Members) | | | | | |
| Urban | 227 | 170 | 75 | 123 | 54 |
| Rural | 141 | 32 | 23 | 32 | 23 |
| Total | 368 | 202 | 55 | 155 | 42 |
| Western Asia (ECWA Members) | | | | | |
| Urban | 23.4 | 20 | 87 | 16 | 70 |
| Rural | 24.6 | 8 | 33 | 5 | 20 |
| Total | 48 | 28 | 58 | 21 | 44 |
| Asia and the Pacific (ESCAP Members) | | | | | |
| Urban | 304 | 213 | 70 | 152 | 50 |
| Rural | 1,056 | 317 | 30 | 106 | 10 |
| Total | 1,360 | 530 | 39 | 258 | 19 |

Source: Report of the Secretary-General, A/35/367, Table 1-3.

1/ Figures do not include the Peoples' Republic of China. Only countries qualifying for UNDP technical assistance are mentioned.

90. According to the Secretary-General's report to the 35th Session of the General Assembly on activities conducted during the Decade (document A/35/341 and Add.1) some 343 million people had no adequate access to water in Africa in 1980. On account of the foreseeable growth of population estimated at 183 million, 526 million more people will have to be provided with drinking water - two thirds of that number will be rural people - and sanitation facilities provided for 571 million people by the year 1990.

91. A global and regional review of the constraints to implementation of the Decade programme shows that the problem has first and foremost been the lack of domestic financial resources. In 54 per cent of the 65 developing countries that constraint is considered severe and even, very severe.

92. Massive amounts of financial resources will therefore be necessary if the goals are to be attained by the close of the Decade. The resources required are of the magnitude of 40 to 80 billion dollars per year on account of the technology and level of service agreed on. This would mean anything from 4 to 8 times the total current investment.

93. However, should current trends continue, external financing will be no more than 10 to 20 per cent. Also, the bulk of the financing will have to come from the developing countries themselves. The point therefore needs to be made that the people should be fully involved in the implementation of the programme. Popular participation is certainly a most desirable solution on the one hand because it is the only way that the effort to be made at the national level can be elicited and on the other hand because it particularly makes the people in question responsible both at the installation phase and for the maintenance of equipment once it has been installed.

94. However, it is also true that labour and popular participation alone will not solve the drinking water problem. It has been demonstrated that equipment costs account for 50 to 70 per cent of the cost of installing water supply systems. Solving the problem, on account of the importance of water both to rural and urban areas, would require its share of national budgetary appropriations as a matter of priority.

2. Water for agricultural use

95. The International Development Strategy for the Third United Nations Development Decade annexed to General Assembly resolution 35/56 sets at 4 per cent, the increase in agricultural output that would enable developing countries to increase their GNP by 7 per cent.

96. Irrigation and water control are the factors which, combined with changes in agricultural technology, make for speedy increase in agricultural production. Irrigated areas in 1980 were only 2 per cent of the cultivated land area in Africa. And yet, 50 to 60 per cent of the increase in agricultural production over the last 20 years has been accounted for by new or renewed irrigation.

97. Then again, because of the vagaries of the weather, an adequate increase in agricultural productivity can only be possible with better and proper management of water, drainage (when necessary) and flood control. The following Table gives a very clear picture of the indicative unit costs of developing irrigation schemes in developing countries.

98. It can be noted in the Table that the unit investment costs of irrigating one hectare of land in Africa are higher than anywhere else.

Table 7: Indicative unit investment costs (per hectare) for irrigation development in developing countries

(United States dollars at constant 1980 prices)

| Region[a/] | Gravity Schemes | | Pump-and tube-wells | Weighted Average | Cost increase factor in relation to 1975 prices |
|---|---|---|---|---|---|
| | | Percentage of total | | | |
| Africa (excluding North-East-Africa) | 11,000 | 70 | 6,000 | 9,500 | 2.67 |
| Near East (excluding the Sudan) | 7,000 | 70 | 4,000 | 6,100 | 1.84 |
| Sudan | 5,000 | 50 | 4,000 | 4,500 | - |
| Asia and Far East (excluding South Asia) | 4,000 | 60 | 2,000 | 3,200 | |
| South Asia (India, Pakistan Bangladesh, Nepal and Burma) | 2,500 | 40 | 1,000 | 1,600 | 1.10 |
| Latin America | 6,000 | 50 | 3,000 | 4,500 | 1.35 |

Source: UN Committee on Natural Resources, Eighth Session, 8-17 June 1983 (E1C.7/1983/11)

a/ The indicative cost of rehabilitation per hectare in all regions is $1,760 except for South Asia where it is $800.

99. An inexpensive method of irrigated farming has long been practised by African women. This is farming on marshland. Such marshland, unsuited for growing cereals and export crops, has been used by women for market gardening and rice farming. The productivity of such land is higher than drained land. Furthermore, since there is less demand for such land, rights of ownership and usufruct are more flexible. It is becoming more and more the practice for such marshland to be the first to be reclaimed by irrigation. In such cases, women become totally marginalized to the advantage of men to whom the irrigated lands are allocated in complete disregard of the rights of usufruct that the women exercised before and in neglect of the experience they have acquired in irrigated farming.

G. The problem of firewood

100. Wood is still the main source of energy for domestic consumption, if not for the total energy consumption of African countries. In a petroleum-producing country such as Algeria, the share of wood in total energy used by the country is only 1.9 per cent while it is as much as 90 per cent in Ethiopia. Those two countries are extreme cases. In the Ivory Coast, the percentage is 55. In most non-oil producing and non-industrialized countries, wood accounts for almost the entire energy consumed nationally. In Mali, it accounts for 93 per cent while in Guinea, wood accounts for 69 per cent of the energy source.

101. With regard to domestic use, wood is by far the predominant source of fuel and in the rural areas where three quarters of the African population live, wood is still, with few exceptions, the only fuel used on a wide scale.

102. The mismanagement of available wood, together with domestic pressure and the market economy that goes with all-out urbanization have seriously taxed wood production not to mention the African countries' reserves of forest and thicket. Wood collection is consuming more and more time and compelling people to walk longer distances. It requires hours of arduous work from housewives. In the towns, what has happened in the Sahel shows how much of a limiting factor wood can become. The cost of wood accounts for as much as 30 per cent of the expenditure of the urban poor.

103. The wood problem is by no means limited to the Sahel where it is most acute. The following Table shows the situation of Third World people with regard to the availability of fuelwood. The wood situation is alarming in the countries of the Third World and even more particularly so in Africa where half the people suffer from a great dearth of firewood.

104. In order to cope with the situation and to enable rural folk and the urban poor to achieve a modicum of comfort, the efforts in the most affected countries have focused on:

(a) Developing and marketing more efficient stoves. A traditional three-stone stove has an energy efficiency of three to eight per cent whereas a closed combustion chamber stove has a 50 per cent yield of heat produced. Improving

energy efficiency would result in wood savings of at least 50 per cent which, it is hoped, will be reflected in the conservation of some forests and thickets;

(b) Planting fast-growing species of wood. While the efforts by no means match the needs, the programme would benefit from private, collective and individual support;

(c) Seeking alternative energy sources, particularly in seriously affected areas such as the Sahel. In this connection, the use of solar energy continues to be studied. In the meanwhile Mauritania is popularizing the use of butaine gas among its people.

105. All these solutions should be applied simultaneously if they are to be effective. Considering that the supply of firewood to the town of Bamako alone involved 500,000 days of work and a monetary circulation of $7 million, it is time not only for governments to undertake massive reafforestation programmes, but also for private, collective or individual initiative to provide genuine support for such programmes because wood is becoming as much an object of speculation as sorghum or other market crops. Discussions have been held on the possibility of growing trees by themselves or along with annual crops. Both schemes have been successfully experimented with, the technologies have been developed and in the current deplorable state of affairs, particularly in areas having a fragile ecosystem,both should be put into effect.

Table 8: Population suffering from a firewood deficit (in millions)[1/]

| Region | Major Wood Shortage | | Deficit | | Foreseeable Deficit | | Major Shortage or Deficit | |
|---|---|---|---|---|---|---|---|---|
| | Total Population | Rural Population | Total Population | Rural Population | Total Population | Rural Population | Total Population | Rural Population |
| Africa | 55 | 49 | 146 | 131 | 112 | 102 | 535 | 464 |
| Middle East and North Africa | - | - | 104 | 69 | - | - | 268 | 158 |
| Asia & the Pacific | 31 | 29 | 832 | 710 | 161 | 148 | 1,671 | 1,434 |
| Latin America | 26 | 18 | 201 | 143 | 50 | 30 | 512 | 342 |
| TOTAL | 112 | 96 | 1,283 | 1,052 | 323 | 280 | 2,986 | 2,398 |

Source: FAO Forestry paper No.42, FAO, Rome 1983.

106. Of all continents, Africa has the largest arid and semi-arid stretches of land. The following Table gives the surface area of existing deserts and of land threatened by desertification.

107. Wanton cutting of trees and destruction of a fragile ecosystem are largely responsible for the higher risks of desertification that Africa runs in relation to other continents. Reafforestation, combined with a better method of collecting firewood will have a beneficial effect on the environment and the climate. The importance of reafforestation of arid, semi-arid and desert-threatened areas should be understood in regional terms. Serious efforts will then be made by governments and people to afforest those areas on an adequate scale.

Table 9: Areas already affected or likely to be affected by desertification in the developing countries (in thousands of km$^2$)

| Region | Existing Desert | Risk of Desertification | | | | Percentage of Land Area |
|---|---|---|---|---|---|---|
| | | Very High | High | Moderate | Total | |
| Africa | 6,178 | 1,725 | 4,911 | 3,741 | 16,555 | 55 |
| South America | 200 | 414 | 1,261 | 1,602 | 3,478 | 20 |
| Asia | 1,581 | 790 | 7,253 | 5,608 | 15,232 | 34 |
| TOTAL | 7,992 | 3,449 | 16,460 | 17,707 | 45,608 | 35 |

Source: FAO, UNESCO, WMO World Desertification Map: document submitted to the United Nations Conference on Desertification, Nairobi, 29 August - 9 September 1977.

## CONCLUSION

108. The myriad factors which caused and continue to fuel the food crisis have been analysed. Not all the aspects of the food crisis have been considered in depth by most African countries. However, the most obvious manifestation of the crisis is massive imports of cereals and other foodstuffs. Production and its problems and constraints will have to be examined. The first part of this document was an attempt to do just that.

109. The major problem in food production, as was considered earlier, lies in two shortcomings: the failure of technology to match needs and the inability of the human factor (or those people receiving various investments and knowledge of new technology) to make full use of such technology in producing food. Everybody knows that the great majority of women work in food production. Everybody also knows that in most cases, the great majority of women have no direct access to land, training, extension services and to modern inputs. They have even less access to credit.

110. These two shortcomings take a heavy toll on the agricultural situation which is deteriorating or is at best stagnating. In the least developed countries where the situation is even more serious than elsewhere in the continent, the grain self-sufficiency rate runs the risk of decreasing from 92 per cent in 1975 to no more than 77 per cent in 1990, should current trends continue.

111. In order to counter the slow-down in agricultural production and food production more particularly, African States need to take every step to promote and facilitate the access of the greatest number of people to land and water.9/ This recommendation applies to the situation of African women farmers more than to any other group. Such access to land and production capital can be provided on an individual basis without distinction as to sex or, at the very least, resources can be allocated to husbands and wives jointly and severally in accordance with the action plan adopted by the World Conference on Agrarian Reform and Rural Development.

112. Irrigation must be developed because only irrigated farming, on account of the vagaries of the weather and the deterioration of the ecosystem, will make it possible to make the most of the labour and expensive inputs that modern farming requires. In distributing inputs and popularizing their use, women farmers, who happen to be the majority, should not be overlooked.

113. If food production is to have a spectacular take-off, scientific research will have to be developed at the same time as extension services will have to be expanded. It is important to note in this connection that the number of students in technical and scientific disciplines would have to be increased. The number of undergraduates studying science and technology is less than 100 per 10,000 inhabitants in 27 of the 29 countries studied in Africa. For half the number of these countries the figure is less than 40 science students. In the Arab States, the ratio is 200 per 100,000 inhabitants, just as in Asia and the Pacific. In Latin America, the

figure is 400 while Europe and North America have a figure of 700.[10/] This gapping disparity largely explains, not why the food crisis came to be but, why it persists in such a severe form.

114. In keeping with the spirit and the letter of the Lagos Plan of Action, it would be necessary to allocate a greater volume of resources to the development of the agricultural sector and the improvement of living conditions in the rural areas, it being understood that women and men together should equally benefit from the investment and returns under such a policy.

115. Improving the living conditions of people also means supplying them with drinking water. The achievement of the Decade objectives will involve the participation of people, women especially, in decision-making, and in selecting and implementing local, national and regional programmes if the programmes are to enjoy grassroots support and be followed up more consistently than they have been in the past.

116. Research in agricultural technology must be continued and developed. Research into domestic technologies should be organized on the basis of traditional technologies. It is only by so doing that working conditions can be humanized and the rural exodus stemmed.

117. The distribution of labour outside and within the home should be reviewed because the old order is no more and the chaos resulting from its passing does nothing but over-burden the so-called weaker elements of the population, namely women and even children.

118. The thorny problem of wood calls for massive reafforestation programmes to be conducted in combination with research into saving the available wood and at the same time developing and popularizing other forms of energy. What is at stake is the well-being of present and future generations. As these measures are what will preserve and restore a less fragile climate, reafforestation programmes and environmental protection should be accorded high priority, especially in those areas having a fragile ecosystem.

119. In the final analysis, African women make a very important contribution to the food economy. In order to resolve the food crisis, that contribution absolutely needs to be recognized with a view to integrating it in the development process, organizing it better at the same time as the burden of women is lightened. This will make for an accurate appraisal of their work, greater social justice and above all, for food self-sufficiency in the home, the country and the region.

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